

Pre-print version. May be cited as:

Rosendal, G. Kristin and Peter Johan Schei, 'How May REDD+ Affect the Practical, Legal and Institutional Framework for 'Payment for Ecosystem Services' in Costa Rica?' *Ecosystem Services*, Available online 20.05.2014, DOI 10.1016/j.ecoser.2014.04.009.

How may REDD+ affect the practical, legal and institutional framework for 'Payment for Ecosystem Services' in Costa Rica?

Abbreviations¹

Keywords: payment for ecosystem services; Costa Rica; biodiversity; conservation; reduced emissions from deforestation

1 Introduction

Costa Rica pioneered the establishment of a system of 'Payments for Ecosystem Services' (PES) in 1997 and Latin America has since been at the forefront in putting this new paradigm of environmental management into practice. In 2007, parties to the United Nations Framework Convention on Climate Change (UNFCCC) decided to consider measures for Reducing Emissions from Deforestation and Forest Degradation (REDD) in developing countries, as strongly advocated by the Coalition for Rainforest Nations (CfRN), of which Costa Rica is a central member. The next year, the UN-REDD Programme was launched to support national REDD+ strategies. CfRN was instrumental in creating the World Bank's Forest Carbon Partnership Facility (preparing the ground for REDD), and it has continued to contribute to the evolution of this facility.²

The PES programme in Costa Rica aims to enhance the protection of nature and biodiversity by setting an economic value on these resources and compensating those who manage them sustainably (Barton et al., 2009). In the absence of PES, proponents argue, natural habitats outside well-protected areas are likely to be put to use for other economic

¹ ADIIs: Indigenous Integrated Development Associations; CfRN: Coalition for Rainforest Nations; CONAC: National Council of Conservation Areas; ECOMERCADOS I: World Bank loan (2001–2005); FONAFIFO: *Fondo Nacional de Financiamiento Forestal*; MINAE: *Ministerio del Ambiente y Energía* (Ministry of Environment and Energy; later MINAET, including telecommunications); PES: Payment for Ecosystem Services; PSA: *Pagos por Servicios Ambientales* (=PES in English); REDD: Reducing Emissions from Deforestation and Forest Degradation; REDD+: in addition to aim at reduced emissions, this includes conservation and sustainable management of forests; SDI: Social Development Index; SINAC: *Sistema Nacional de Áreas de Conservación*; TNC: The Nature Conservancy; UNFCCC: United Nations Framework Convention on Climate Change.

² www.rainforestcoalition.org/ (Accessed 27 November 2012).

purposes and destroyed. Multilateral development aid agencies have welcomed PES as a more cost-efficient approach to conservation than past community-based conservation efforts. However, a high score on cost efficiency might have different trade-offs in terms of socio-economic impacts (Wunder, 2006). What is gained in short-term economic efficiency may be lost in legitimacy among local affected stakeholders and in long-term sustainability. From a governance perspective, both PES and REDD+ pose challenges concerning overall effectiveness and legitimacy for national and local governments, relating to conservation of biodiversity and the ecosystem services provided. Trade-offs can be expected, inasmuch as the social, environmental and economic pillars of sustainable development cannot automatically be expected to pull in the same direction.

First, the REDD+ process could have effects on the content of PES through normative diffusion. There is a direct link between forest protection, carbon storage and biodiversity conservation (UNEP, 2009). Evolving carbon markets largely fail to value biodiversity because carbon sequestration in plantations is a more attractive economic proposition. REDD *plus* includes conservation and sustainable management of forests in addition to REDD's sole focus on enhancement of forest carbon stocks. In that sense, conserving biodiversity and securing local livelihoods could be an indirect result of REDD+ investments, although the focus on carbon capture still seems to predominate. There is widespread concern that biodiversity has not been given adequate consideration in the REDD+ process, increasing the possibility of negative environmental impacts (Gardner et al., 2012; McDermott et al., 2012; O'Connor, 2008). At the international level, project monitoring and evaluation are currently geared to carbon levels and, it is argued, it will be difficult to achieve REDD+ without developing criteria and principles to evaluate the conservation and sustainability-promoting features of the projects (Rosendal and Andresen, 2011). As Kahle (2009) has shown, the income potential of countries with high biodiversity index values (i.e. high levels of endemism and threatened species) from REDD+ is not particularly high, because global biodiversity is typically associated with high land-use conversion rates. The December 2011 UN climate meeting in Durban ended up with a weak decision on social and environmental safeguards,³ whereas the informal Bangkok meeting (August 2012) held that biodiversity and human livelihoods should be included in REDD+ on an equal footing with carbon emission reductions.

³ <http://blog.cifor.org/6507/durban-talks-both-good-and-bad-for-redd-says-expert/> (Accessed 5 January 2012).

Second, REDD+ could have an influence through direct funding. The shape and volume of REDD+ funding are still unclear; they could be based on multilateral public financing or a combination of government and market trading carbon credits. Nevertheless, REDD+ has raised enormous expectations, with predicted financial flows from North to South reaching up to US\$30 billion a year.⁴ REDD+ projects are inherently likely to involve considerable external funding (Kanowski et al., 2011). Throughout this article PES and REDD+ are discussed as evolving economic instruments and policies aimed at protecting one or more ecosystem services, whether a broad range of services aimed at protecting nature and biodiversity (current PES), more narrowly aimed at carbon capture (REDD), or designed to include a broader range (REDD+). The + could bring REDD closer to the original idea of the PES programme in Costa Rica – or it might induce an orientation toward greater economic efficiency and carbon capture through plantation forestry.

2 Conceptual and methodological background

2.1 Material and methodology

Our data material derives from review of academic literature on the evolution of PES, as well as review of relevant technical documents in English. In addition to a review of the literature, we interviewed key actors, including a range of public and private agencies, organizations and NGOs, as well as indigenous leaders and scientists/scholars. These were qualitative interviews with actors from both within and outside the PES policy process: in total 15 interviews with civil servants of institutions involved in the PES design and implementation. The selection of key actors was an important part of the analytical work. A possible weakness here is the lack of key actors from potentially relevant ministries, such as finance and trade.

Very generally speaking, our interviewees can be divided into two groups; rather crudely coined the forestry development or production group and the conservationist group. In the development group we find representatives of the forestry sector as well as parts of bureaucracy. These are the Costa Rica Forestry Chamber, the Hydro-Electric Power (HEP) company (CNFL), and the Oficina National Forestal. On several occasions, FONAFIFO and the energy part of MINAE expose views that fit in with the development and forest production view. The predominantly conservationist group include SINAC, domestic and international environmental NGOs and overseas development agencies, indigenous peoples' groups (Kus Kura civil society), and academic institutions. The latter are the Earth University,

⁴ www.un-redd.org/AboutREDD/tabid/102614/Default.aspx (Accessed 18 December 2012).

Instituto de Políticas para la Sostenibilidad, the National Biodiversity Institute (INBio), and the Costa Rica Institute of Technology. The views of our interviewees tend to align with this conservation / development divide on a number of issues examined and we provide summaries and nuances along the way (see 3.4 and 4, see also Annex 1).

2.2 Measuring performance

The study applies a combination of biology and political science to evaluate the performance of PES, tracing the evolution of Costa Rica's policies and institutional systems in respect of PES. Biological insights are broadly applied in introducing the topic (first section) and in adding understanding to the conduct of and interpretation of interviews, while the overall approach to the study and its methodology draw predominantly on political science perspectives. The PES programme in Costa Rica aims to enhance the protection of biodiversity, and our evaluation criteria are partly informed by this general obligation, supplemented by views obtained during open-ended interviews.

We describe the PES programme's practical, legal and institutional framework and examine its performance in terms of legitimacy and effectiveness. Effectiveness can be assessed in terms of output (rules and regulations), outcome (behavioural change) and impact (problem-solving) (Miles et al., 2002): here the main focus is on output and outcome. Most of the ecological economics literature on PES and REDD has concentrated on cost efficiency and effectiveness (Wunder et al., 2008; Angelsen, 2008a, b). However, we argue that, particularly as regards global institutions with deep conflicts over values and fairness, legitimacy may be equally important or even a prerequisite, not least for long-term effectiveness. In political theory, legitimacy concerns the justification and acceptance of political authority. Legitimacy directs attention to the participation of relevant stakeholders, transparency, and accountability in the decision-making process (Scharpf, 1999).

Several studies have underlined the importance of problem structure in analysing and explaining institutional performance (see Miles et al., 2002). Basically, the more 'malign' a problem, the lower, presumably, is the effectiveness of the institution in question. As both climate change and biodiversity are subject to gradual change, complex, controversial and multi-scale (malign) problems, the challenges facing PES and REDD+ schemes in their attempt to resolve these issues are huge. We hold that biodiversity loss is even more difficult to deal with than climate change. Although achievements have been modest, climate-change projects attract considerable political and media attention, as well as the interest of the business sector and technology community. In comparison, loss of biodiversity – which is no

less a problem – has attracted less international political attention (EC, 2008; GBO, 2010).

‘Conservation of biodiversity’, the UN Secretary-General has stated,

makes a critical contribution to moderating the scale of climate change and reducing its negative impacts by making ecosystems – and therefore human societies – more resilient. It is therefore essential that the challenges related to biodiversity and climate change are tackled in a coordinated manner and given equal priority.⁵

The problem of biodiversity loss may seem less ‘attractive’ because it is less amenable to technological solutions (Jänicke and Lindemann, 2010). Moreover, it is harder to measure, less visible in the media and seemingly less dramatic. The way biodiversity loss is frequently presented, it seems to be mainly a problem for the well-being of indigenous communities and the poor. Nevertheless, the ecosystem services provided by biodiversity are basic to human well-being in general (MA, 2005). If we want to bring these lessons to bear on the assessment of PES policy, a comprehensive, integrated approach that includes biodiversity conservation and stakeholder participation may be more successful in the longer term. *Hence, PES performance is here assessed in terms of its contribution to conserving a broad range of ecosystem services, and also based on perceptions of various stakeholder groups.*

2.3 Examining factors affecting PES performance

We apply two explanatory perspectives as to how domestic and external factors may account for the state of PES, with particular focus on potential effects from the REDD+ process. Our examination of domestic factors builds broadly on the theoretical work of Najam (1995) and Jänicke and Weidner (1997), who emphasise the role of institutional factors and environmental proponents in gauging the scope for effective implementation of domestic environmental policy. Envisaged policy goals can be achieved only if the institutions involved at national and local levels have the requisite capacity and commitment. It is therefore important to study relations between, and interaction among, relevant domestic institutions involved in PES schemes as well as to identify their capacity for enforcing PES schemes. Further, we need to determine whether interests and institutions are coordinated in their approach to PES policies and objectives. A general assumption is that lack of consensus around PES objectives is likely to reduce its ability to conserve biodiversity and its range of ecosystem services. A central conflict of interests is likely to be found between forest conservation and forest production, as the latter is more economically beneficial to forest

⁵ <http://gbo3.cbd.int/the-outlook/gbo3/foreword/foreword-by-the-united-nations-secretary-general.aspx> (Accessed 16 June 2010).

owners while less amenable to protecting biodiversity. Similarly, carbon markets have largely failed to value biodiversity because carbon sequestration in plantations /forest production is more attractive economically.

What, then, of the involvement of external actors relevant to the PES policy process? The dominant argument in favour of increasing the role of NGOs is that they provide valuable information and underpin legitimacy in global environmental governance (Biermann and Gupta, 2011; Betsill and Corell, 2008). On the domestic scene, an alternative approach is to retain a cautious view of the participation of interest groups in politics. External interest groups and institutions may acquire dominant positions in policy-making, through financial support and or normative argumentation (Bernauer and Betzold, 2012). International networks and forums produce specialized, ‘expert’ knowledge which may translate into policy advice provided to local arenas by various actors (Bumpus and Liverman, 2011). A high degree of external funding and policy recommendations could reduce legitimacy with domestic stakeholders. Part of our analysis looks specifically into the extent and nature of actor participation in the REDD+ process. A general assumption is that the REDD+ process and international NGOs and donors may affect the legitimacy of domestic PES policies, through methodologies and ideas and through funding. We examine the independence of Costa Rica’s PES programme as regards external funding and external normative argumentation.

3 Institutional and legal framework for PES policies in Costa Rica

3.1 Background and legal basis for PES institutions

During the 1980s it became clear that the extent of Costa Rica’s forest cover had plummeted from 70 to 21 % since the 1950s (IIED, 2012; Porras et al., 2013). This recognition served as a wake up call for Costa Ricans and set them on the path of conservation. They began fighting deforestation by granting tax exemptions to reforestation projects. However, this proved to favour the cheapest land – often forested land, which was then clear-cut and reforested (Le Coq et al. 2010; IIED, 2012). A new policy of certification of tax exemptions was introduced in 1984, but the certificates were often taken to the stock market for sale to parties wanting to use them for tax reduction, a practice that led to similar criticism as the former scheme. The model was also claimed to favour the larger taxpayers.⁶

⁶ Substantiated in an interview at the Costa Rica Institute of Technology, 16 January 2012.

Hence, *Pagos por Servicios Ambientales* (PSA, or PES⁷ in English) was created, the main difference being that it pays owners to conserve and manage forests, rather than engage in deforestation. The policy was based on the concepts and ideas of the UNCED Rio Conference, but also on the recognition of environmental services – long before the UN Millennium Ecosystem Assessment elaborated the concept of ecosystem services (MA, 2005; Le Coq et al., 2010). The PSA/PES environmental services from forests were defined in terms of biodiversity protection, carbon capture and storage, water regulation and benefits of biodiversity, e.g. for research and scenic beauty (Porrás et al., 2013).

Another motivation for reform of existing support schemes in forestry was the desire to avoid the use of the term ‘subsidies’, because it was not recognised by the International Monetary Fund, which set the conditions for providing loans for structural adjustment in response to the economic crisis of the 1980s. Some still see this as a neoliberal policy with an inherent bias towards large and wealthy landowners (Matulis, 2013), while others hold that PES in Costa Rica has continued to rely more on government intervention instead of evolving into a purely market-based mechanism (Fletcher and Breitling, 2011). Zbinden and Lee (2005) had showed that payments tend to go disproportionately to better-educated, wealthier farmers who possess larger farms and forest areas. In response to this, PES includes a legal obligation to support small- and medium-scale forest owners (IIED, 2012).

Costa Rica’s Environment Law 7554 in 1995 was followed by the Forestry Act 7575 in 1996 and the 1998 Biodiversity Law.⁸ The *Fondo Nacional de Financiamiento Forestal* (FONAFIFO) was created under Forestry Act 7575 as a public, decentralized autonomous forestry-financing agency to administer the PES programme. A 1995 decree made it the responsibility of the *Sistema Nacional de Áreas de Conservación* (SINAC) in the *Ministerio del Ambiente y Energía* (MINAE, Ministry of Environment and Energy; later MINAET, including telecommunications) to inspect the implementation of PES (Porrás et al., 2013).

SINAC was since strengthened legally by being established through the Biodiversity Law of 1998. SINAC is headquartered in the national capital of San José and has eleven regional administrative divisions. A decree passed in 2002 gave FONAFIFO case-by-case

⁷ There is a semantic difference between *environmental* (the Spanish concept) services and *ecosystem* (the English concept) services, but for practical purposes it does not seem to have made a difference as to how PES is thought of in Costa Rica. This was substantiated in interviews at FONAFIFO and the Institute of Technology.

⁸ Ley No 7554, Ley Organica del Ambiente; Ley Forestal - Ley 7575 del 1996; and Ley No 7788, Ley de Biodiversidad (Costa Rica).

responsibility for approving PES, while SINAC was to remain responsible for prioritising PES areas and for biodiversity conservation.⁹

3.2 PES modalities and normative basis

The PES programme became operational in 1997, starting off with nearly 700 contracts (Porrás et al., 2013). By 2008, the PES scheme covered approximately 10 % of Costa Rica's territory (Kahle, 2009) and by 2012 nearly 13,000 contracts had been signed, covering over 800,000 ha (IIED, 2012).

Payment for Ecosystem Services is financed by 3.5 % of the revenues accruing from the fossil fuel tax and a national water tariff on water use. In the early phases, these domestic sources covered for about 40 %, and by 2008–2012 they paid for 84 %. Initially, 40 % came as loans from the World Bank and a series of grants from the GEF, and later on about 12 % from World Bank loans (Blackman and Woodward, 2010; Sanchez, 2013).

The World Bank loan (2001–2005), known as ECOMERCADOS I (FONAFIFO, 2009), was made conditional on greater participation of women and indigenous communities in PES and increasing the total area covered to 100,000 ha. This goal was soon surpassed: 270,000 ha were under contract by 2005.¹⁰ There are three targeted applicants: small-scale forest owners (up to 300 ha), large-scale forest owners (up to 600 ha) and, since 2000, indigenous peoples' associations (up to 1,000 ha). To implement PES in indigenous territories, the government designated the Indigenous Integrated Development Associations (ADIIs) to represent indigenous peoples collectively *vis-à-vis* FONAFIFO. Constituting 1.68 % of the Costa Rican population, indigenous peoples control 10 % of the forests in the country; of the remainder, 40 % is state-owned and 50 % owned by private actors (Larson et al., 2010). The PES programme pays landholders an amount set each year by decrees according to modality, about US\$64 per ha of conserved forest per year (FONAFIFO, 2009).

Initially the PES programme consisted of three modalities: forest protection, reforestation (production through plantations, *inter alia*), and forest management (also production).¹¹ Some have estimated that 78 % of contracts concern forest protection (Porrás et al., 2013); others set the figure at 85 % (Blackman and Woodward, 2010) and 90 % (Kahle,

⁹ Executive Decree No. 30762 (2002) giving FONAFIFO all management of PES, excluding the organisations budget, which must be approved by the ministry of finance. <http://www.globeinternational.org/country-chapters/costa-rica> (Accessed March 2014.)

¹⁰ <http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/LACEXT/EXTLACPROJECTSRESULTS/0,,contentMDK:21684790~pagePK:51456561~piPK:51456127~theSitePK:3177341,00.html> (Accessed 27 May 2013).

¹¹ www.fonafifo.go.cr/paginas_espanol/servicios_ambientales/sa_decreManua.htm (Accessed 27 May 2013).

2009). PES payment comes directly from the service provided. It takes into consideration that the public areas also contribute to providing ecosystem services; hence the funds allocated are to be divided equally between the Protected Areas and SINAC (25 %) and private lands and FONAFIFO (25 %). Payment is allocated at the local level all over the country before being distributed nationally, taking national biodiversity priorities by SINAC into consideration.

In 1987, the forest cover had declined from 70 % in 1950 to a critical 21 % of Costa Rica's land area (Porrás et al., 2013). That figure has since risen to 51 % as the forest recovered through reforestation and afforestation (Porrás et al., 2013; Government of Costa Rica, 2010). Forest cover started to pick up rapidly in the early 1990s, coinciding with PES, the new Forest Law, the new Biodiversity Law, support to Protected Areas, and the elimination of forestry subsidies (Porrás et al., 2013; Government of Costa Rica, 2010). The Biodiversity Law links PES normatively to the preservation of Protected Areas (Art. 37), and forest protection has clearly been the dominant PES modality in Costa Rica. The system now includes national and regional biological corridors to fill gaps in ecosystems representation; support for Protected Areas with privately owned parts that lack payment; PES in agroforestry systems, including the planting of primarily native species of trees in agroforestry systems; a focus on reforestation in degraded areas; natural regeneration; and forest protection in watersheds (Porrás et al., 2013).

There are, however, growing domestic disputes over the priorities of PES. For the first five years, the PES programme was jointly managed by FONAFIFO and SINAC. The 2002 decree gave FONAFIFO greater responsibility for PES, while SINAC remained responsible for the long-term goals and overall priority-setting for biodiversity.

3.3 The REDD+ readiness process: Institutional and normative aspects

In 2010 the REDD+ Readiness Preparation Proposal (Government of Costa Rica, 2010) for Costa Rica was initiated. The process is run by the World Bank as a preparation for REDD+. Among the many actors and institutions involved are FONAFIFO, the Ministry of Finance, SINAC and MINAET, and a total of 96 relevant interested parties/stakeholders (Government of Costa Rica, 2010). Indigenous peoples are represented, also here through the ADIIs.

During REDD+ readiness consultations, indigenous groups and the conservation sector urged that the REDD+ strategy should not focus exclusively on the global carbon markets, but that REDD+ policies should include incentives for conservation in public protected areas. This is consistent with the position Costa Rica has maintained in negotiations under the UNFCCC regarding financing mechanisms (Government of Costa Rica, 2010). While Costa

Rica's policies are still focused on forest protection, the country's current REDD+ strategy stresses the need to recognise the carbon stored by national parks and biodiversity reserves. This emphasis has been added because carbon is the only thing that generates funding through REDD+.¹²

The REDD+ readiness proposal process involves a large number of institutions at all levels. Since it is geared towards carbon capture, the question is whether it may serve to displace the focus on biodiversity's other ecosystem services. There is growing domestic controversy over forest conservation versus production forestry. With reforestation (not conservation) still a focal area for REDD+, there is concern that this could reinforce the preference for plantations.

3.4 Overall PES performance: Assessments and perceptions

A general strength of environmental and nature management policies in Central America is that they all have legal frameworks in place. Moreover, Costa Rica has the institutional framework in place, with SINAC and FONAFIFO, as well as transparency through the Contraloría General de la Republica, which examines the environmental and social conditions in addition to fiscal policies. Costa Rica further stands out for having dramatically reforested, reduced the deforestation of primary forest, and also set up an unprecedented system of state Conservation Areas, covering 26 % of the territory (Miller, 2011; Sánchez-Azofeifa et al., 2007).

How much of this is due to the effectiveness of PES is disputed (IIED, 2012, Porras et al., 2013). Estimates of PES effectiveness vary considerably, from some 20 %, to 40 % (FONAFIFO) and 50 % (Costa Rica Institute of Technology, interview, 2012). An econometric study by Tattenbach et al. (2006) estimated that the primary forest cover in Costa Rica was 10 % greater than it would have been without the PES programme in place. PES is audited annually, and is also monitored by satellite. The evaluation of the effectiveness of PES on forest cover depends on the type of forest measured; there seem to be regional variations as well (Pfaff et al., 2008; IIED, 2012; Blackman and Woodward, 2010). Morse et al. (2009) indicate that effectiveness increases with greater emphasis on protection of existing forest, and that the PES programme can prove effective in retaining natural forest and replenishing tree cover within biological corridors. As reported by Kahle (2009), 64 % of the total PES in 2005 was directed to forests with high land values, and 65 % of PES funds were

¹² Personal communication, PESILA meeting, Armenia, Colombia, 16 January, 2013; Oscar Sanchez (FONAFIFA), Costa Rica.

spent on forests of high biological diversity conservation value – in line with Costa Rica’s policy goals.

According to The Nature Conservancy (TNC), PES in Costa Rica has been so effective that it is no longer a priority for TNC (interview, 2012). Nevertheless, PES remains an important part of their conservation work, because 11 % of the country’s national park lands are still privately owned and a court recently judged that strict regulation was not legal in privately owned areas. This is in line with the priority set in the Biodiversity Law to allocate some PES funds to buy up remaining private land in Conservation Areas (Art. 37).

The effectiveness and legitimacy of PES are also the subjects of a principled debate among academics and civil servants. The Forestry Act banned deforestation post-1997 (art. 19). Hence, many economists claim that PES is mostly ‘subsidising’ areas that would have been protected anyway, because these areas are not worth much and deforestation is legally banned. Some question whether it is ethical to pay for refraining from illegal activities (Sánchez-Azofeifa et al., 2007). Others maintain that small-scale farmers would have deforested those areas even if the benefits were small, and forest owners would have cut the forest illegally if it were not for PES. Most of our interviewees, from both the conservationist and the forestry development groups, agree on the necessity of combining sticks and carrots through PES, as it has helped to make the deforestation ban acceptable. This is also a prevailing assessment in literature (Pagiola, 2008; IIED, 2012; Porras et al., 2013; Legrand et al., 2013).

Another contested issue concerns the quality of participation. This disagreement cuts across the conservation / production groups and is rather found between state and non-state actors. From the authorities’ side, it is contended that the inclusion of indigenous peoples through the ADIIs induced a change in their attitude, making them trust more in the government. Respondents from indigenous peoples’ organisations argue that since the ADIIs were imposed on them by the government rather than respecting their traditional ways of organization, the ADIIs do not enjoy accountability among indigenous peoples. The PES programme is also met with scepticism in the private forestry sector. As noted, PES for conservation of forests still dominates, and our interviewees within the forestry sector would prefer channelling more of the funds to increase production/plantation forestry.

Several interviewees from the conservationist side reported on emerging frictions regarding the criteria for priority-setting of PES applications. In addition to the conflict of interest and land-use tensions with production forestry, there are inherent and increasing land-use tensions between the protected areas and the energy divisions within MINAET. The

emerging development orientation of the central government, in which production forests (plantations) is preferred over forest protection, represents a future challenge to cooperation on setting PES priorities.

4 Discussion

Our assessment of PES performance has shown that PES has contributed to the objective of protecting a broad range of ecosystem services in Costa Rica. Thus far, competing interests have been accommodated by a mix of PES modalities, but the system is currently under pressure to shift the emphasis from protection to increased production forestry. How do domestic coordination and external actors (the REDD+ process in particular) affect PES objectives in Costa Rica? We examine cooperation between key domestic institutions engaged in PES, as well as how external actors may affect the country's PES programme directly, and through the REDD+ process.

4.1 Domestic coordination problems affecting PES

The 2002 decree was a watershed event in the relationship between FONAFIFO and SINAC, affecting their ability to coordinate action and work together on establishing the content of PES. In 2002 FONAFIFO was given case-by-case responsibility for state forestry administration. SINAC would no longer be directly involved in approving PES projects, but is still responsible for prioritising which areas should go to PES. This decision has the potential to affect how these two central institutions coordinate action and collaborate on matters regarding PES. Significantly, FONAFIFO has only two persons employed at SINAC's eleven regional offices, each of which has a staff of 20–30. In other words, SINAC is decentralised while FONAFIFO is centralised, but the latter still has sole responsibility for approving PES applications. Another potential coordination and cooperation problem is that SINAC has no representative on FONAFIFO's Board and FONAFIFO has no representative on SINAC's National Council of Conservation Areas (CONAC). SINAC sees this as a minor problem because SINAC does help FONAFIFO at the local level to verify whether contracts have been fulfilled (interviews in SINAC and FONAFIFO, 2012).

Interviewees from the forestry production sector and the conservationists alike agree, however, that SINAC may be losing its influence as the MINAET becomes more oriented towards development. FONAFIFO aims at expanding its own turf and might succeed because it controls the funding. Opposition to environmental protection is rising as the leverage of sector interests grows within the ministries and the dominant ideology within MINAET is

approaching that of the Ministry of Agriculture. Since 2000, MINAET has been led by persons who are more ‘developmentalist’ in outlook than ‘environmentalist’.¹³

On the other hand, SINAC rates its own position within MINAET as relatively strong, and interviewees from within the conservationist group all agreed that SINAC is not without allies. SINAC, NGOs, civil society organizations and indigenous peoples are currently fighting the government for a more environmentally friendly policy. Several court cases show that SINAC and civil society have the support of the courts, which tend to overrule MINAET in cases of development versus conservation. Costa Rican civil society is strong, and most Costa Ricans have internalized a picture of their country as a ‘green’ one with forest protection still ranking very high among the general population (LeCoq et al., 2010).

Moreover, the legal basis for the 2002 decree is fragile as it arguably bypassed the Forestry Act and the Biodiversity Law and is currently obstructing SINAC from doing its job. When FONAFIFO was given full responsibility for PES and SINAC was left with primary administration of Conservation Areas that created a problem, since SINAC is still vested by the Biodiversity Law to prioritise and protect biodiversity all over the country. However, the Forestry Act keeps development interests in check, as changing land-use from forest to other uses is prohibited, and SINAC decides on priorities.¹⁴ It would be fair to say that there is pressure to redirect the focus of the PES programme from protection to production due to the growing disputes among and between government sectors.

4.2 External actors general influence on PES

First, we ask: where does the money come from? As Le Coq et al. (2010) show, competing domestic interest groups in the forestry production and the environment conservation sector have received about equal amounts of external funding. The private forestry sector has funding from the USA and Germany (development aid); environment and conservation groups receive funding through international environmental NGOs. The international NGOs are satisfied with their role and ability to influence the Costa Rican government’s policies and priorities, having good access to ministers and policy-makers, and working relations with universities, NGOs, and indigenous associations (interview, TNC, January 2012).

The World Bank’s ECOMERCADO may have served to increase attention to poverty alleviation in PES (Le Coq et al., 2010). Among academic interviewees, some argued that whenever external donors are involved they want to influence priorities, even though the actual contribution to overall environmental funding in Costa Rica from the GEF and the

¹³ Interview, INBio, Costa Rica, 18 January 2012.

¹⁴ As pointed out in interview at INBio, Costa Rica, 18 January 2012.

World Bank is relatively small. In any case, the GEF does have a long history of supporting biodiversity, which is in line with Costa Rica's own priorities. Moreover, with more than 80 % of PES paid for domestically, Costa Rica can hardly be said to be overly dependent on external funding.

Besides funding, a second main factor of influence is normative argumentation and advocacy of international principles. It would be surprising if Costa Rica's success history were disconnected from global environmental and conservation trends. Many of the concepts Costa Rica has successfully implemented (protected areas, biodiversity conservation) are dealt with internationally. REDD and PES issues are handled in international forums that involve networks of international NGOs, researchers, donors and government representatives. Research centres often receive external funding and also produce domestic research and policy recommendations on PES and REDD (Le Coq et al., 2010). All these are possible ways in which external actors may influence local processes in Costa Rica.

On the other hand, we have seen how Costa Rica had used the Rio concepts and ideas in elaborating and developing its own PES programme prior to the international PES debate. Costa Rica has also been active in the CBD; and, as a member of the Coalition of Rainforest Nations, has pioneered REDD and REDD+ in the UNFCCC. Thus, PES can hardly be said to be something that has been pushed on Costa Rica from the outside. PES has been adapted to and developed by Costa Rica's own institutions and legal system. Indeed, to some extent it originates within Costa Rica and is largely paid for by domestic funding. All this would seem to strengthen the legitimacy of Costa Rican decisions concerning PES and REDD+.

4.3 The REDD+ process influence on PES

Will the REDD+ process increase dependency on external sources and actors? REDD enjoys increasingly high priority with donors, a situation which might impact on PES policies. The REDD+ readiness proposal involves a large number of institutions at all levels and tends to bring with it a focus on aspects of climate change. One possible consequence of the REDD+ requirements on additionality would be to skew the focus towards plantations and production rather than conservation in forest management (REDD-net, 2010).

4.3.1 REDD+: Biodiversity and the baseline problem

Although there is a direct link between forest protection, carbon storage and biodiversity conservation, evolving carbon markets have generally failed to value biodiversity. Costa Rica is ranked among the nine countries with extremely high biodiversity in forest ecosystems

(Kahle 2009; Myers et al., 2000). It also scores dramatically higher than most other rainforest countries regarding general governance factors like regulatory quality, rule of law, corruption perception, government effectiveness and systematic and regular monitoring of forest cover (Barton et al. 2009). Costa Rican protected areas receive real protection (Kaimowitz and Paupitz, 1998). Nevertheless, Costa Rica may have a problem to attract REDD+ funding because it is not ‘bad’ enough: there has simply been too little deforestation lately. This is known as the baseline problem (Angelsen, 2008b) and reveals that REDD+ projects, with their bias towards reforestation and plantations, could come to exclude forest protection. As pointed out during our interview with the Instituto de Políticas para la Sostenibilidad, reforestation captures more carbon (1ha=10 ton carbon) in the short term compared to protected forests (1ha=2 ton carbon); hence, simple mathematical calculations can lead polluters to prefer reforestation.

The relatively recent evolution of forestry in Costa Rica (1990–2009) means there is no baseline that could allow the country to generate significant emissions reductions. The relative maturity of the PES programme requires Costa Rica not only to focus on reduced deforestation, but also on locking in past successes. To achieve effective conservation, it is essential to reward services of the standing forest, like those related to high biodiversity and social-value forests, not least in indigenous reserves. In the UNFCCC, Costa Rica has argued that REDD+ should support earlier conservation work, in order to circumvent the baseline problem and protect biodiversity. If baseline-scenario thinking persists, Costa Rica would have very little to gain from REDD (Ebeling and Yasué, 2008). Moreover, a major bottleneck in adapting REDD+ to take account of biodiversity and sustainable forest management is the worldwide lack of good monitoring, verification and reporting mechanisms for biodiversity (Rosendal and Andresen, 2011).

On the other hand, Costa Rica has such a tremendous amount of biodiversity that an indirect benefit from any scheme involving carbon capture is likely to include biodiversity – as pointed out in the interview at INBio – it is literally all over the place. In addition, under the Forest Law Costa Rica cannot change the land-use of areas with forests. The Biodiversity Law also establishes biodiversity as of essential importance to tourism. These two factors can be expected to remain more important than carbon for Costa Rica. This view that was also prevalent with all interviewees from the conservationist group.

4.3.2 REDD+: Stakeholder views on plantations and forest protection

According to our interviews with stakeholders from the private forest sector, there have been cases of forest owners and producers looking for alliances with REDD+ investors for the voluntary carbon markets. They see it as problematic that small properties find it difficult to access money in the carbon markets. Costa Rica is a small country with small properties, which is one of the main reasons why the REDD+ carbon investors are mostly drawn towards the extensive indigenous territories. Our interviewees from the conservationist group agree that this is problematic, but also point to a further problem. Several mentioned how certain NGOs and research centres have started to grant *carbon certificates* without having the mandate to do so. Frequently coined ‘carbon cowboys’, these are freelancers who broker deals with indigenous groups, making investments and then selling carbon credits to international markets. The same activities are taking place in Colombia, where many are apprehensive because REDD+ and ‘carbon cowboy’ deals could lead to greater use of plantations and less forest protection (Støen and Okamoto, 2012).¹⁵

The widespread public support for biodiversity conservation policies indicates, however, that Costa Rica is largely protected from such potential effects of REDD+. Most domestic NGOs pay little attention to REDD+, since they see PES as a useful way of incentivising conservation in Costa Rica. Moreover, the PES programme in Costa Rica is additionally safeguarded by the country’s ability to pay for a very large share of it. While other countries may need to chase REDD+ for money from donor countries, Costa Rica relies to a greater extent on domestic taxes to pay for environmental conservation policies.

5 Summary and concluding remarks

The combined pressure from domestic development interests and emerging REDD+ principles and methodologies could make it harder for Costa Rica’s PES to retain its broad range of ecosystem services. REDD+ might strengthen calls to reduce the scope of biodiversity conservation, because the carbon focus is likely to create incentives to pursue reforestation and plantations rather than protection or natural regeneration.

Nonetheless, there are four reasons why REDD+ may not have such negative effects on biodiversity. First, public opinion and most members of civil society are strong environmental proponents and are likely to remain far more robust in Costa Rica than in most other

¹⁵ Mariel Aguilar Støen and Tami Okamoto, University of Oslo, personal communication, January 2012. This view was also prevalent at the PESILA meeting in Armenia, Colombia, 16 January, 2013, and during interviews in Colombia, January 2012, where the authors participated.

countries. Second, Costa Rica's legal and institutional frameworks for PES management are sound. The Forestry Act, backed by the Biodiversity Law, ensures that Costa Rica cannot change the land use of forested areas. Third, compared to most other biodiversity-rich countries, Costa Rica draws more heavily on own funding to pay for the conservation and sustainable use of biodiversity. This seems to be a central message in the Costa Rican REDD readiness process as well. Fourth, Costa Rica has been a strong proponent in the UNFCCC negotiations, urging the inclusion of biodiversity in REDD+ projects. Costa Rica is therefore likely to retain its own focus on PES policies, including the emphasis on biodiversity conservation. That external funding and external normative advice have been relatively low would seem to strengthen the legitimacy of Costa Rican decision-making on PES and REDD+.

The external realities of the financial crisis should not be underestimated, but the implications can go both ways. The crisis could reduce overall funding for conservation, as there is likely to be even less conservation money available. On the other hand, economic recessions tend to imply less pressure on natural resources as the demand for consumer goods eases off. Either way, as REDD+ is unlikely to generate huge amounts of new funding, REDD+ money might not affect PES very much.

Nevertheless, REDD+ might change the thinking behind PES policy. After all, the REDD+ process consumes considerable resources, and may affect policy simply because so much has been invested in the framework. Forest-rich countries would be well advised to step back and consider what interests are behind REDD+ and how it might affect their own priorities and policies. We can conclude that Costa Rica would seem to have an interest in retaining its high profile in the international REDD+ discussions, and has much to contribute on how this instrument should be developed further.

Acknowledgement

The study has been financed by the Research Council of Norway (Project *Payment for Ecosystem Services in Latin America in the context of REDD*, Project number 204058). The funding source has had no role in the study design, data collection, interpretation or analysis of data, writing of the report, or the decision to submit the article for publication. We are greatly indebted to our interviewees who generously shared their knowledge with us.

References

Angelsen, A., 2008a. Moving Ahead with REDD: Issues, Options and Implications, Center for International Forestry Research, Bogor, Indonesia.

- Angelsen, A. 2008b. REDD models and baselines. *International Forestry Review (IFR)*, 10(3), 465–475.
- Barton, D., Faith, D.P., Rusch, G., Acevedo, M., Castro, M., 2009. Environmental service payments: Evaluating biodiversity conservation trade-offs and cost-efficiency in the Osa Conservation Area, Costa Rica. *Journal of Environmental Management*. 90, 901–911.
- Bernauer, T., Betzold, C., 2012. Civil society in global environmental governance. *Journal of Environment & Development (JED)*. 21(1), 62–66. DOI: 10.1177/1070496511435551
- Betsill, M. M., Corell, E. (Eds.), 2008. *NGO Diplomacy: The Influence of Nongovernmental Organizations in International Environmental Negotiations*, MIT Press, Cambridge, MA.
- Biermann, F., Gupta, A., 2011. Accountability and legitimacy in earth system governance: A research framework. *Ecological Economics*. 70, 1856–1864.
- Blackman, A., Woodward, R., 2010. User financing in a national payments for environmental services program: Costa Rican hydropower. *Ecological Economics*. 69, 1626–1638.
- Bumpus, A.G., Liverman, D.M., 2011. Carbon Colonialism? Offsets, Greenhouse Gas Reduction and Sustainable Development, in Peet, R., Watts, M.J. (Eds.), *Global Political Ecology*. Routledge, New York.
- Ebeling, J., Yasué, M., 2008. Generating carbon finance through avoided deforestation and its potential to create climatic, conservation and human development benefits. *Philosophical Transactions of the Royal Society B*, 363, 1917–1924.
- EC, 2008. *The Economics of Ecosystems and Biodiversity. An interim report*. Commission of the European Communities, Banson, Cambridge, UK. ISBN-13 978-92-79-08960-2.
- Fletcher, R., Breitling, J., 2011. Market mechanism or subsidy in disguise? Governing payment for environmental services in Costa Rica. *Geoforum*. 43, 402–411.
- FONAFIFO, 2009. *Environmental Services – PES statistics*. Available at: www.fonafifo.com/paginas_espanol/servicios_ambientales/sa_estadisticas.htm (Accessed 28 May 2013).
- Gardner, T.A., Burgess, N.D., Aguilar-Amuchastegui, N., Barlow, J., Berenguer, E., Clements, T., Danielsen, F., Ferreira, J., Foden, W., Kapos, V., Khan, S.M., Leesm, A.C., Parry, L., Roman-Cuesta, R.M., Schmitt, C.B., Strange, N., Theilade, I., Vieira, I.C.G., 2012. A framework for integrating biodiversity concerns into national REDD+ programmes. *Biological Conservation*, 154, 61–71.
- GBO, 2010. *Global Biodiversity Outlook 3*, Secretariat of the Convention on Biological Diversity, Montreal.
- IIED, 2012. *Payments for environmental services in Costa Rica: from Rio to Rio and beyond*. Briefing, International Institute for Environment and Development. Prepared by Ina Porras, Miriam Miranda, David Barton and Adriana Chacon-Cascante. Available at: <http://pubs.iied.org/17126IIED.html> (Accessed 28 May 2013).
- Jänicke, M., Weidner, H. (Eds.), 1997. *National Environmental Policies. A Comparative Study of Capacity Building*. Freie Universität Berlin, Berlin.
- Jänicke, M., Lindemann, S., 2010. Governing environmental innovations. *Environmental Politics*. 19(1), 127–141.
- Kahle, F.C., 2009. *Reducing Emissions from Deforestation and forest Degradation (REDD) – Assessing the Opportunity in Costa Rica*. A report submitted in partial fulfilment of the requirements for MBA degree and the Diploma of Imperial College London.
- Kaimowitz, D., Paupitz, J., 1998. Forests, Policies and People on the Central American Agricultural Frontier. *World's Forests, Society and Environment*. 1(430), 247–253.

- Kanowski, P.J., McDermott, C.L., Cashore, B.W., 2011. Implementing REDD+: lessons from analysis of forest government. *Environmental Science & Policy*, 14(2), 111–117.
- Larson, A., Corbera, E., Cronkleton, P., van Dam, C., Bray, D., Estrada, M. May, P., Medina, G., Nacarro, G., Pacheco, P., 2010. Rights to forests and carbon under REDD+: initiatives in Latin America. CIFOR Info Brief No 33. Available at: www.cifor.org/online-library/browse/view-publication/publication/3277.html (Accessed 28 May 2013).
- Legrand, T., Frogner, G., Le Coq, J.-F., 2013. Institutional performance of Payments for Environmental Services: An analysis of the Costa Rican Program, *Forest Policy and Economics*, <http://dx.doi.org/10.1016/j.forpol.2013.06.016>
- Le Coq, J.-F., Frogner, G., Legrand, T., Pesche, D., Seanz-Segura, F., 2010. Payment for Environmental Services Programme in Costa Rica: a policy process analysis perspective. Presented at 90th Annual Meeting of the Southwestern Social Science Association, Houston, Texas.
- MA, Millennium Ecosystem Assessment, 2005. *Ecosystems and Human Well-Being. Biodiversity Synthesis. A report of the MEA.* World Resources Institute, Washington DC.
- Matulis, B.S., 2013. The narrowing gap between vision and execution. Neoliberalization of PES in Costa Rica. *Geoforum*. 44, 253–260.
- McDermott, C.L., Coad, L., Helfgott, A., Schroeder, H., 2012. Operationalizing social safeguards in REDD+: actors, interests and ideas. *Environmental Science and Policy*. 21, 63–72.
- Miles, E.L., Underdal, A., Andresen, S., Wettestad, J., Skjærseth, J.B., Carlin, E.M., 2002. *Environmental Regime Effectiveness: Confronting Theory with Evidence.* MIT Press, Cambridge, MA.
- Miller, M.J., 2011. Illegal logging in Costa Rica: The role of corruption among forestry regulators. *Journal of Environment Development*, 20, 50. DOI: 10.1177/1070496510394319
- Morse, W.C., Schedlbauer, J.L., Sesnie, S.E., Finegan, B., Harvey, C.A., Hollenhorst, S.J., Kavanagh, K.L., Stoian, D., Wulfhorst, J.D., 2009. Consequences of environmental service payments for forest retention and recruitment in a Costa Rican biological corridor. *Ecology and Society*. 14, Art. 23. Available at: www.ecologyandsociety.org/vol14/iss1/art23/ (Accessed 28 May 2013).
- Myers, N., Mittermeier, R.A., Mittermeier, C.G., daFonseca, G.A.B., Kent, J., 2000. Biodiversity hotspots for conservation priorities. *Nature*. 403, 853–858.
- Najam, A., 1995. Learning from the literature on implementation: A synthesis perspective. Working paper WP-95-61. International Institute of Applied Systems Analysis, Laxenburg, Austria.
- O'Connor, D., 2008. Governing the global commons: Linking carbon sequestration and biodiversity conservation in tropical forests. *Global Environmental Change*. 18, 368–374.
- Pagiola, S., 2008. Payments for environmental services in Costa Rica. *Ecological Economics*. 65, 712–724.
- Pfaff, A., Robalino, J., Sánchez-Azofeifa, G.A., 2008. Payments for environmental services: Empirical analysis for Costa Rica. Working Papers Series, Terry Stanford Institute of Public Policy, Duke University, Durham, NC.
- Porras, I., Barton, D.N, Miranda, M. and Chacón-Cascante, A. (2013) Learning from 20 years of Payments for Ecosystem Services in Costa Rica. International Institute for Environment and Development, London.
- REDD-net. 2010. Putting Payments for Environmental Services at the heart of national REDD+ systems: What can we learn from Costa Rica? REDD-NET Latin America Bulletin Issue 01. Available at: <http://redd-net.org/files/CostaRicaPES.pdf> (Accessed 28 May 2013).

- Rosendal, G.K., Andresen, S., 2011. Institutional design for improved forest governance through REDD: Lessons from the Global Environment Facility. *Ecological Economics*. 7(11), 1908–1915.
- Government of Costa Rica, 2010. Costa Rica Readiness Preparation Proposal, presented to the World Bank Forest Carbon Partnership Facility. MINAET, FONAFIFO: Government of Costa Rica.
- Sanchez, O., 2013. Arreglos Institucionales del Programa de Pago por Servicios Ambientales (PSA) en Costa Rica. Presented at Pesila workshop, Armenia, Colombia, 16 January 2013.
- Sánchez-Azofeifa, A., Pfaff, A., Robalino, J. Boomhower, J., 2007. Costa Rica's Payment for Environmental Services Program: intention, implementation, and impact. *Conservation Biology*. 21, 1165–1173.
- Scharpf, F.W., 1999. *Governing in Europe: Effective and Democratic?* Oxford University Press, Oxford.
- Støen, M.A. and Okamoto T., 2012. From PES to REDD? Emerging actors, alliances and conflicts in Colombia and Costa Rica. Working Paper, Centre for Development and Environment, University of Oslo, Norway.
- Tattenbach, F., Obando, G., Rodríguez, J., 2006. Mejora del excedente nacional del pago de servicios ambientales. FONAFIFO, San José, Costa Rica.
- UNEP, 2009. *The Natural Fix? The Role of Ecosystems in Climate Mitigation*. UNEP, Cambridge, UK.
- Wunder, S., 2006. Are direct payments for environmental services spelling doom for sustainable forest management in the tropics? *Ecology and Society* 11(2), 23. Available at: www.ecologyandsociety.org/vol11/iss2/art23/ (Accessed 29 May 2013).
- Wunder S., Engel, S., Pagiola, S., 2008. Taking stock: A comparative analysis of payments for environmental services programs in developed and developing countries. *Ecological Economics*. 65, 834–852.
- Zbinden, S., Lee, D., 2005. Paying for environmental services: An analysis of participation in Costa Rica's PSA Program. *World Development* 33(2), 255–272.